

**To:** Scott Kluska[skluska@cteh.com]; Roberts, Kris D.[kroberts@nd.gov]; Peronard, Paul[Peronard.Paul@epa.gov]  
**Cc:** cmckissack@garner-es.com[cmckissack@garner-es.com]; Casey Anderson (canderson@garner-es.com)[canderson@garner-es.com]; MikeC@redriversupply.us[MikeC@redriversupply.us]; Rockeman, Karl H.[krockema@nd.gov]; sradig@nd.gov[sradig@nd.gov]  
**From:** Tillotson, Steve J.  
**Sent:** Wed 8/27/2014 6:52:27 PM  
**Subject:** RE: Barite Pile  
Williams Co - Williston (RRS) Ltr 20140815.pdf

I am not familiar with beneficial uses for Barite in soil stabilization. Is there some guidance?

We do have some guidelines for beneficial uses of materials that could be useful in reviewing similar issues. Guideline 11, on our website is geared for Coal Combustion materials but it could be easily adapted to other materials.

The guideline is at:

<http://www.ndhealth.gov/wm/Publications/Guideline11AshUtilizationForSoilStabilizationFillerMaterialsAndOther>

We have typically looked at a 4:1 ratio of dilutant to waste ratio.

The TCLP analysis (up to 20:1 dilution) of the waste showed the Barite waste to leach:

Barium (of course): .37 mg/l to .59 mg/l

Cadmium: .059 mg/l to .018 mg/l

The Drinking Water MCL for Cadmium is .005 mg/l; so placement of the unused material in an uncontrolled environment typical for an some type of earthen fill may reasonably cause impacts.

Similarly, Cadmium bearing waste can be a potential pollutant for stormwater runoff. See: <http://www.legis.nd.gov/information/acdata/pdf/33-16-02.1.pdf?20140827125411>

Analysis for other parameters that we would normally consider for some sort of beneficial use

did not appear to be completed (see Guideline 11).

Based on the information provided, the proposed "Beneficial Use" does not appear to follow our guidance and is not approved (see our letter of August 15).

Steve Tillotson

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Please Keep North Dakota Clean

**From:** Scott Kluska [mailto:[skluska@cteh.com](mailto:skluska@cteh.com)]

**Sent:** Tuesday, August 26, 2014 4:17 PM

**To:** Roberts, Kris D.; Tillotson, Steve J.; Peronard.Paul@EPA.Gov

**Cc:** cmckissack@garner-es.com; Casey Anderson (canderson@garner-es.com); MikeC@redriversupply.us

**Subject:** Barite Pile

**Importance:** High

Kris,

Attached are the Waste Characterization results for the pile of Barite material / debris (Pile #3). Please review the results and let us know as soon as possible if you approve of (as discussed) Red River Supply utilizing this material for soil stabilization on their property.

Also as mentioned this AM in your email, we are in need of your reply on:

1. Review of the pre-excavation soil samples for determination of a soil cleanup criteria.
2. Approval for Soil Stockpile Characterization of going to a 1 composite soil sample per 1,000 cyds for characterization of the soil stockpiles instead of 1 sample per 150 cyds. We are anticipating 6,000-10,000 cyds and this will help expedite and keep costs in line.

You had mentioned early this AM that you would have #1 and #2 above by noon today.

Please advise ASAP. We are running into a bottle neck again and need your input/approval and guidance on the criteria.

Thanks.

**Scott Kluska**

Sr. Consultant

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